

U.S. NAVAL BASE, PEARL HARBOR, BLOCH RECREATION
CENTER & ARENA
(U.S. Naval Base, Pearl Harbor, Naval Station, Facility No. 161)
Between Center Drive & North Road near Nimitz Gate
Pearl Harbor
Honolulu County
Hawaii

HABS HI-416
HI-416

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
PACIFIC GREAT BASIN SUPPORT OFFICE
National Park Service
U.S. Department of the Interior
600 Harrison Street
San Francisco, CA 94103

Addendum to
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BLOCH RECREATION CENTER AND ARENA
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BLACK & WHITE PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
U.S. Department of the Interior
National Park Service
Oakland, California

Addendum to
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(Building No. 161)
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HISTORIC AMERICAN BUILDINGS SURVEY
U.S. NAVAL BASE, PEARL HARBOR, BLOCH RECREATION CENTER AND ARENA
(U.S. Naval Base, Pearl Harbor, Naval Station)
(Facility No. 161)

This report is an addendum to a 24 page report previously transmitted to the Library of Congress.

Location: Between Center Drive and North Road near Nimitz Gate
Pearl Harbor Naval Base
City and County of Honolulu, Hawaii
U.S.G.S. Pearl Harbor Quadrangle, Hawaii, 1983
7.5 Minute Series (Topographic) (Scale - 1:24,000)
Universal Transverse Mercator Coordinates: 04.609420.2361430

Significance: See page 1 of HABS HI-416.

Description: See page 2 of HABS HI-416.

During the field visit for this addendum several historic features were noted. At the exterior of the northwest side of the recreation center portion of Facility 161 the original concrete slab floor of the dance floor extends out several feet past the exterior wall. Areas of this concrete slab retain a green-stained finish, including the vertical outer edge of the slab. Rectangular sections of this slab at the bases of the octagonal concrete columns do not have this green finish. These rectangular sections were new concrete work when the dance floor was roofed over in 1944. They were poured to finish the floor when the rectangular sections were cut out of the original slab to install the footings for the octagonal concrete columns that would support the new (1944) roof. The natural concrete finish of these 1944 rectangular sections of slab indicates that green-stained concrete was original to the (1941) dance floor.

Also at the same area of the northwest exterior wall of the recreation center, the octagonal concrete columns of the 1944 roofing are still extant, supporting the original 6" x 12" beams, 3" x 8" tapered rafters, and roof sheathing. The columns measure about 12" across the parallel sides of their octagonal cross section and are flat-topped with no capitals. Metal angle brackets, secured with bolts into the concrete columns, serves to secure the beams atop the columns. The columns have simple octagonal bases, about 3" high.

At the arena portion of Facility 161, the ohia wood strip flooring which was installed in 1948 is still extant. The flooring is installed with the strips running lengthwise down the length of the basketball court. The wood strip flooring outside the boundaries of the basketball court, as well as areas of the court at the free throw lane and center circle have been painted blue. The ohia strips (with a natural finish) are visible at the remaining portion of the court. Also extant are the vents at the edge of

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the wood strip flooring where the surrounding concrete floor forms an approximate 4" high curb. These narrow horizontal vents are formed at the riser of the curb by wood slats which allow airflow between the redwood sleepers under the ohia floor of the court.

Historical Context: See HABS No. HI-416. Refer to HABS No. HI-387 for an overview of the history of recreation facilities at Pearl Harbor.

Bloch Arena was the "largest single expenditure [\$175,000]" in the 1940 housing and recreation center expansion project of 1940 which included Hale Moku and Makalapa housing, and Richardson Recreation Center on the Aiea waterfront.¹ Construction on the project began in October 1940.

Original drawings indicate that the plans for Bloch Arena were prepared by the Department of Public Works of the Fourteenth Naval District. The project manager was Lt. Commander M.W. Kehart. The original designer is unknown. Construction of the facility was undertaken by Contractors, Pacific Naval Air Bases (CPNAB) and the Herrick Iron Works of Oakland, California provided the steel for the structural framing.²

Although the period of the 1930s before Bloch Arena originated saw decreasing expenditures for recreation services for the fleet, during the final years of that decade "the growth of service and civilian personnel led to the realization that more recreation facilities were needed on base."³ Because of the pre-WW II build up of permanent facilities at Pearl Harbor as well as visiting ships bringing large numbers of sailors who needed recreational facilities rather than accommodations, Bloch Arena was intended for use by both groups.

According to the original seating plan, there were 6,000 seats for boxing events; 5,000 seats in the bleachers and 1,000 seats ring side (on the main floor). The boxing ring was assembled in the center of the main floor, surrounded by seating. Seating was listed as 4,000 for motion pictures; 3,000 in the bleachers and 1,000 in the reserved area on the main floor.⁴ The motion picture screen and a portable stage were erected when needed at the northeast end of the arena.⁵

Bloch Arena is a uniquely designed building, a sunken amphitheater with recreation facilities in an attached section (originally a portion of which was open-air) that is flanked by two elongated wings. This design utilizes natural ventilation and lighting. There is no other facility in Hawaii that shares this same design.

Construction of Wooden Buildings During WW II

¹ "Navy Starts Big Oahu Housing Project," *Honolulu Star Bulletin*, November 2, 1940, 1.

² Ann Yoklavich and Lorraine Palumbo, *HABS HI-416, U.S. Naval Base, Pearl Harbor, Bloch Recreation Center and Arena*, (Washington D.C.: National Park Service, 2004), 10.

³ *Ibid.*, 2.

⁴ Naval Facilities Engineering Command (NAVFAC) Pacific Division: Plan files drawing numbered J-N4-167, June 25, 1941.

⁵ (NAVFAC) Pacific Division: Plan files drawing numbered J-N4-165, June 5, 1941.

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For additional information on the subject of wooden buildings at Pearl Harbor during the war, see HABS HI-416, U.S. Naval Base, Pearl Harbor, Gymnasium Building No. 667.

Many of the wooden buildings constructed at Pearl Harbor during the war were built under wartime directives to conserve vital materials. Bloch Arena was designed before there was any "general recognition of great need for economy in the use of critical materials."⁶ The first directives regarding conservation of critical materials were issued early in 1941.⁷

The rapid construction of facilities that was needed to support the war effort was made possible only through the careful allocation of material resources, including wood building materials. Wartime industrial mobilization is characterized by the prudent distribution of the raw materials necessary to produce the facilities and equipment for the war effort. To cope with the scarcities of materials over the course of WW II the government managed the allocation of resources through entities such as the Office of Production Management, the Supply, Priorities, and Allocations Board (SPAB), and the War Production board. Priority systems were developed for the use of materials within the military, and civilian rationing was also instituted. These departments helped manage material shortages that fluctuated in response to supply and demand and the level of construction taking place.

At the beginning of the war, steel and steel plate were considered the most critical materials since they were needed for ships. Substitutions were made to at this time to conserve steel in buildings. Wood trusses were used in place of steel for framing roofs of mid-sized structures and steel trusses were reserved for large warehouses and hangars. Other military substitutions made in architectural designs included, wood doors for steel doors, wood for steel framing, brick or concrete smokestacks for steel stacks, wood or concrete for steel water tanks, and the use of concrete or asbestos-cement pipe for steel. Wood was also utilized to substitute for steel in roof ventilators and manhole covers.

Dimensional lumber was the most well-understood building material at the time, as well as the least expensive for framing and cladding. Logically, it was the military's choice for expedited construction. Contrary to earlier expectations, by the summer of 1942, the list of critical materials included lumber. The use of timber construction had expanded as the war had progressed, and the production of timber had fallen. The decrease in production was due to inadequate logging manpower and shortages in fuel, tires, and equipment.

As early as 1940 the Bureau of yards and Docks realized that permanent construction was not the best choice for many wartime buildings. Temporary and semi-permanent forms of construction were adopted as

⁶ Contractor's Pacific Naval Air Bases, "Technical Report and Project History, Contracts NOy-3550 and NOy-4173, Pacific Naval Air Bases," n.d. microfiche of report at library of Naval Facilities Engineering Command, Pacific, A-1037.

⁷ Ibid.

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necessary solutions to contend with the deficiencies in materials and resources. Temporary construction took less time and money to complete, two vital resources during the war. It also generally used less total building materials.

Permanent construction was reserved for uses that could not be accommodated in temporary buildings. These included industrial facilities for medical, research and development uses which required specialized or sterile laboratory conditions, storage for volatile supplies such as ammunition, storage for perishable supplies such as food, and fortifications.

The War Production Board outlined new priorities for all construction. It stipulated that one condition for a construction project to receive approval is that it be of the simplest design and that it be constructed cheaply and temporarily using materials easily obtained.

The military adopted specific measures to conserve wood, including using narrower joists and simpler framing in wood construction. Concrete floors were often substituted for wood floors in one story buildings such as warehouses and administration buildings. The Navy used a timber-efficient barracks building that utilized a flat roof, and banded windows. It had interior finishes of Masonite and exterior cladding of asbestos cement board to conserve wood.

Despite the redesigns and other wood conservation efforts, the lumber shortage did not cease. In August 1942, the Navy found it impossible to have a lumber order filled due to the Army's purchasing monopolization of the market. Only after an appeal to the Army by the Chief of the Naval Engineering Corps was the lumber finally acquired. This situation led to a joint Army-Navy request to lumber magnate Frederick K. Weyerhaeuser to analyze the situation. He recommended consolidating all lumber purchasing into a single organization, which resulted in the Materials and Equipment Section becoming the central agency for purchasing lumber for both the Army and the Navy. Even with this streamlining of the purchase process, the lumber shortage persisted through the war.

Elvis' 1961 Benefit Performance for the USS *Arizona* Memorial

On March 25, 1961 Elvis performed a benefit concert at Bloch arena for the USS *Arizona* Memorial Fund. All receipts, \$54,678.73, were donated to the construction of the Arizona Memorial. The concert accounted for more than ten percent of the \$515,728 cost of constructing the memorial.⁸ Appearing along with Elvis were; Minnie Pearl, The Jordanaires, and D.J. Fontana and Scotty Moore, two members of Elvis' original backing band. Sterling Mossman, a local Hawaiian comedian, also served as master of ceremonies and performed. The event was the "biggest single gate in the history of show business in Hawaii."⁹

⁸ Pearl Harbor Memorial Fund, *Elvis Concert*, 2005, available from www.pearlharbormemorial.com/site/pp.asp accessed on January 23, 2007.

⁹ "Presley Show Brings in \$52,000," *Honolulu Advertiser*, March 26, 1961, 1.

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A crowd of 3,000 fans greeted Elvis when he arrived at Honolulu International Airport on the afternoon of the show¹⁰ and 4,800 attended the concert¹¹. Tickets for the event ranged in price from \$5 and \$10 for general admission, to \$100.

This Bloch Arena performance was Elvis' last live concert until June 27, 1968 when he recorded two shows in front of a live audience at NBC's Burbank studios¹². These shows, often called "The Burbank Sessions," were the source of tape used for portions of a broadcast aired on December 3, 1968 which is commonly referred to as Elvis' 1968 comeback special.

The day after the concert at Bloch Arena, filming began on Oahu for the motion picture "Blue Hawaii" starring Elvis and Joan Blackman.¹³

Alterations and Additions

In 1944 a two level roof was added over the dance floor.¹⁴ The upper main portion of the roof was constructed about 19' above the dance floor, supported by concrete columns, trusses, and 3" x 10" purlins. The lower portion of the roof was a shed roof at the perimeter of the dance floor, sloping from about 10' high to a height of about 8'-6" at the eaves. This section was constructed of 3" x 8" rafters on 4'-0" centers. The vertical area (clerestory) between the shed roof section and the 19' high roof over the dance floor was filled with fixed horizontal louvers of 1" x 6" slats. The two levels of dance floor roof, along with the rest of the roofs of Building 161, were re-roofed in 1975. In 1981 the shed roof section at the perimeter of the dance floor was re-roofed.

In 1949 a 40' x 100' Quonset with two additional shed roof sections for an enlisted men's mess was added at the west side of the lanai.¹⁵ One shed roof section, at the west end of the Quonset, contained three walk-in refrigeration units, a dry store room and a men's and a women's toilet. This section was partially concealed (on the north and west sides) by a bamboo fence. The second shed roof section was built on the south long side of the Quonset and contained a dishwashing room and a small boiler room. A new concrete slab lanai was added at the north long side of the Quonset. Access to the dining room was through sliding doors from this lanai. The interior of the Quonset had a 52' x 40' dining room with men's and women's washrooms and a beer and liquor storage room at its east end. At the west end was a galley, where the two shed roof sections were added.

At the arena portion of the building, the original wood floor was replaced with ohia wood flooring in 1948. The new ohia floor covered the entire

¹⁰ "3,000 Fans Give Wild Aloha to Elvis," *Honolulu Advertiser*, March 26, 1961, 1.

¹¹ "Presley Show," *Honolulu Advertiser*.

¹² Elvis Australia, *An in-depth look at the Elvis : '68 Comeback Special*, 2004, available from www.elvis.com.au/presley/elvis_68_comeback_special.shtml accessed on January 26, 2007.

¹³ "Elvis, Co-Stars Begin Shooting Blue Hawaii," *Honolulu Star Bulletin*, March 27, 1961, 1-B.

¹⁴ (NAVFAC) Pacific Division: Plan files drawing numbered J-N4-183, February 22, 1944.

¹⁵ (NAVFAC) Pacific Division: Plan files drawing numbered J-N4-196, December 5, 1949.

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main floor of the arena, about 7,570 square feet. It was constructed of 2" x 4" redwood sleepers with 8" tongue and groove redwood subflooring, laid diagonally. Over this was laid 2¼" x ¾" tongue and groove ohia flooring, laid lengthwise along the long dimension of the arena floor.¹⁶ Ohia (varieties of the species *Metrosideros*, family *Myrtaceae*) is a large endemic Hawaiian tree, which can often grow to 80' in height and is found in a wide range of habitats on the major Hawaiian Islands. It produces dense dark wood which was used for flooring in Hawaii and on the mainland since at least 1912.¹⁷

On the second floor of the recreation center, the billiard room was reconfigured in 1952. A partition was added in the center of the room to divide the space into a lounge and reading room on the west end and a billiard room on the east end. The design was done by Lemmon & Freeth Architects of Honolulu.¹⁸ By 1981 the second floor had been altered into a suite of six offices.¹⁹

Roll-up fabric sunscreens have been added to the exterior of the arena. These are each about 10' wide and roll down about 7'-6" to cover the vertical louvers of the exterior walls. They are each independently operated manually from inside the arena.

Sources:

Early Views:

Historic photographs of the interior of Bloch Arena in 1944 were located at the Hawaii State Archives, Admiral Furlong Collection call # PPFUR, box 3, folder 16 "Warbonds." Photographs in this collection were created by a U.S. federal agency (U.S. Navy) and are considered in the public domain. A nighttime photo of the open air dance floor that was also created by the U.S. Navy, and considered in the public domain, appears in the December 1941 issue of *Paradise of the Pacific* magazine.

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"An in-depth look at the Elvis: '68 Comeback Special." Website www.elvis.com.au/presley/elvis_68_comeback_special.shtml accessed on 26 January 2007.

¹⁶ (NAVFAC) Pacific Division: Plan files drawing numbered 459448, July 30, 1948.

¹⁷ "Hawaiian Ohia Making Name With Coast Builders," *Pacific Commercial Advertiser*, August 25, 1912, 5.

¹⁸ (NAVFAC) Pacific Division: Plan files drawing numbered 551471, May 28, 1952.

¹⁹ (NAVFAC) Pacific Division: Plan files drawing numbered 7035362, July 29, 1981.

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"Presley Due Here Today." 25 March 1961, P. 1.

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"3,000 Fans Give Wild Aloha to Elvis." 26 March 1961, P. 1.

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"Presley Show Brings in \$52,000." 26 March 1961, Six Star Final Edition, P. 1.

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"Navy Starts Big Oahu Housing Project." 2 November 1940. P. 1.

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"Police, Hotel Get Set For Presley Shambles." 24 March 1961, P. 1-C.

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Yoklavich, Ann.

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HABS No. HI-387, U.S. Naval Base, Pearl Harbor, Recreational Facilities. National Park Service, 2004.

Yoklavich, Ann, and Lorraine Palumbo.

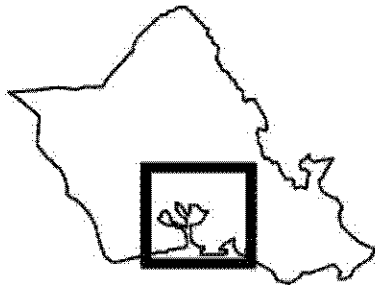
HABS No. HI-416 U.S. Naval Base, Pearl Harbor, Bloch Recreation Center and Arena. National Park Service, 2004.

Project Information: This addendum was prepared in advance of the demolition of the wooden portions of Building 161, to fulfill anticipated mitigation measures under a future MOA between Commander, Navy Region Hawaii (CNRH) and the Hawaii State Historic Preservation Officer. CNRH and other Navy activities in Hawaii are required under Section 110 of the National Historic Preservation Act of 1966, as amended, to initiate measures to make appropriate records of historic properties that would be substantially altered or demolished as a result of Navy action. Mitigation for demolition or extensive alteration under Section 106 sometimes requires amending and adding photographs to existing HABS reports according to National Park Service guidance. Large-format photographs for this addendum were taken in July 2008 by David Franzen of Franzen Photography, Inc and the written portions were researched and prepared by Dee Ruzicka of Mason Architects, Inc. Honolulu, HI.

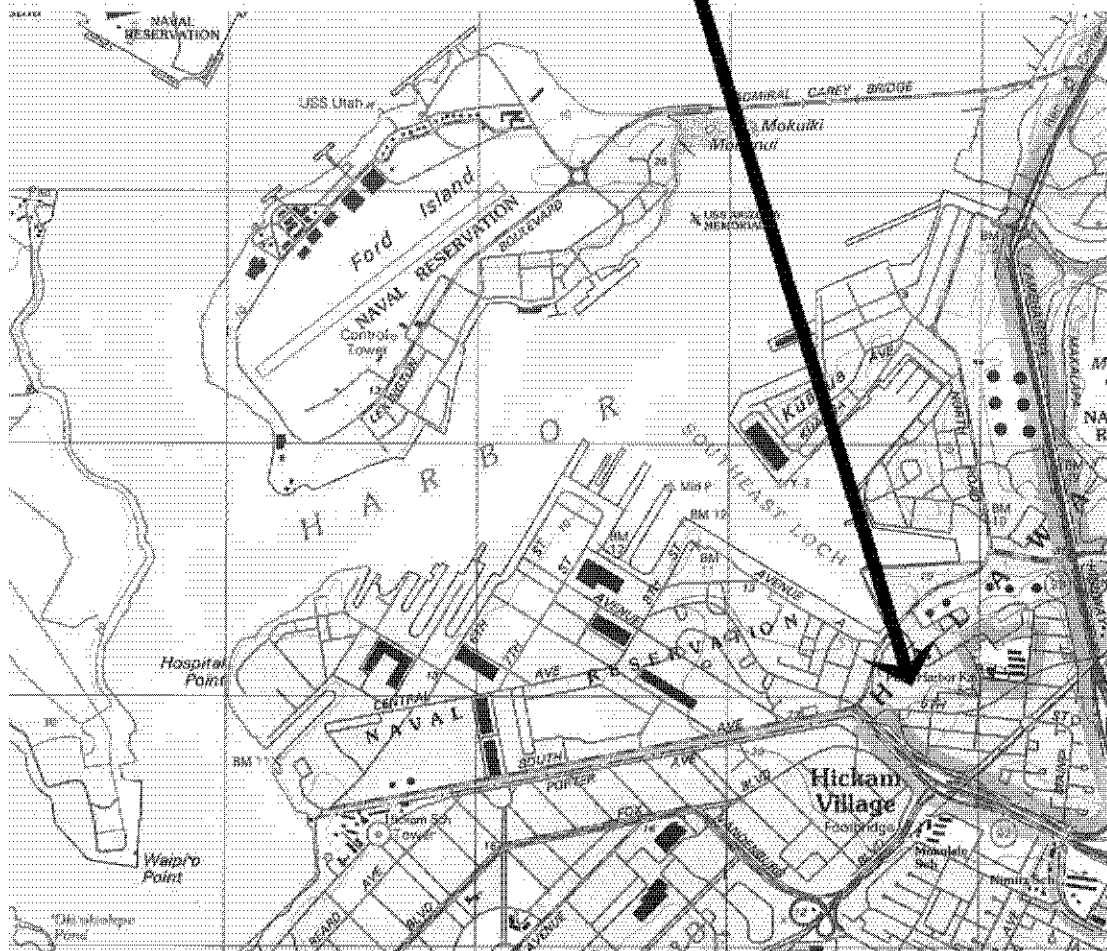
Prepared by: Mason Architects, Inc.
119 Merchant St., Suite 501
Honolulu, HI 96813

Date of Report: February 2009

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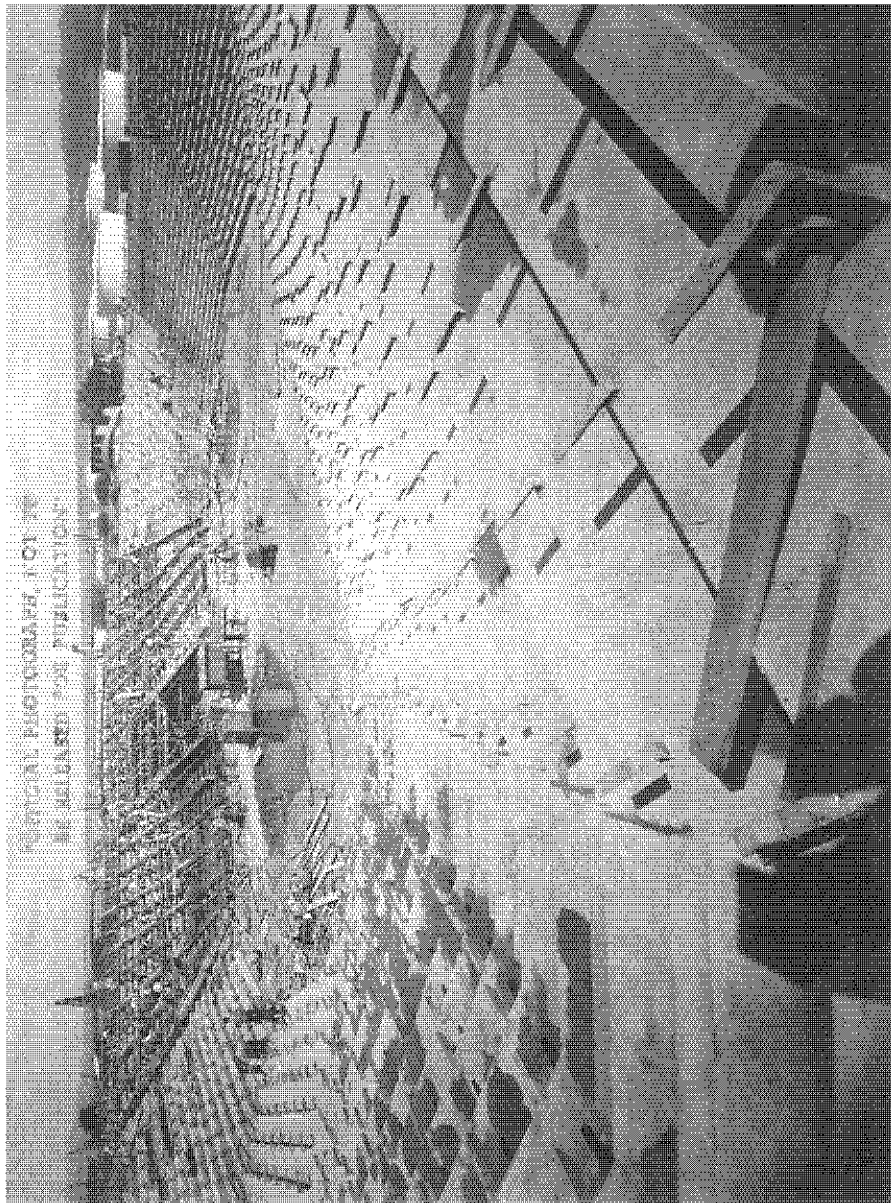


Facility 161



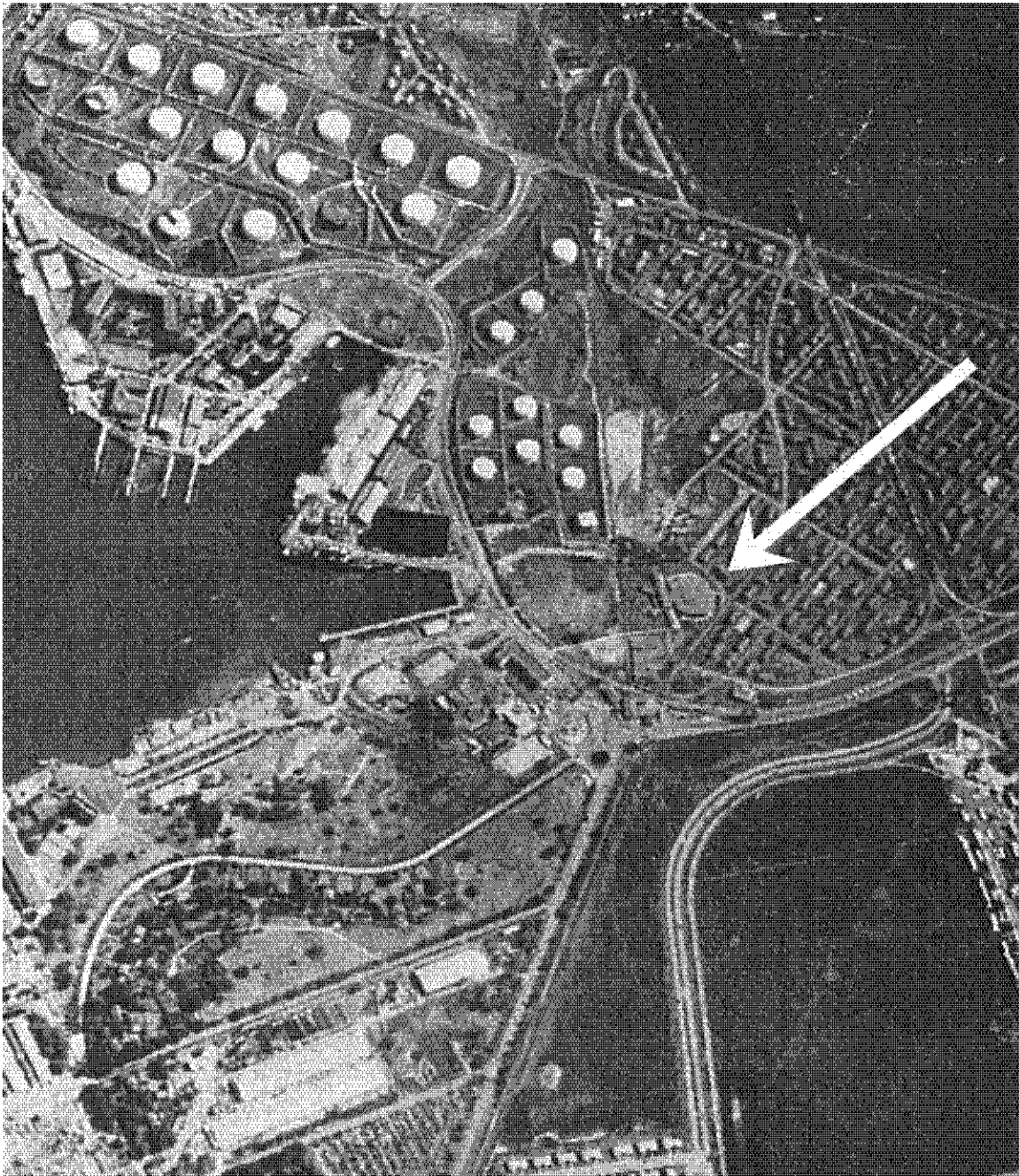
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Portion of photograph dated February 13, 1941 showing construction of Bloch Arena.
NARA 71 CA 171 D, February 13, 1941.



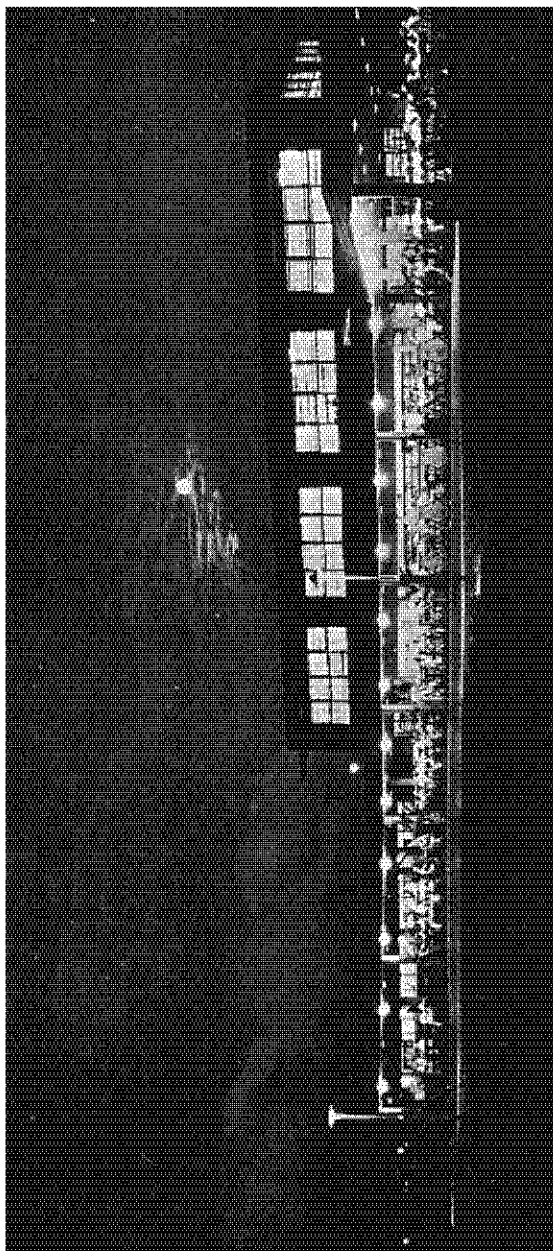
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Portion of photograph dated October 30, 1941 showing Bloch Arena (added arrow). Note the open air portion of the building at the left (north). NARA RG-71-CB Box 101 folder (Operating Base) aerial view AN 41,153. October 30, 1941.



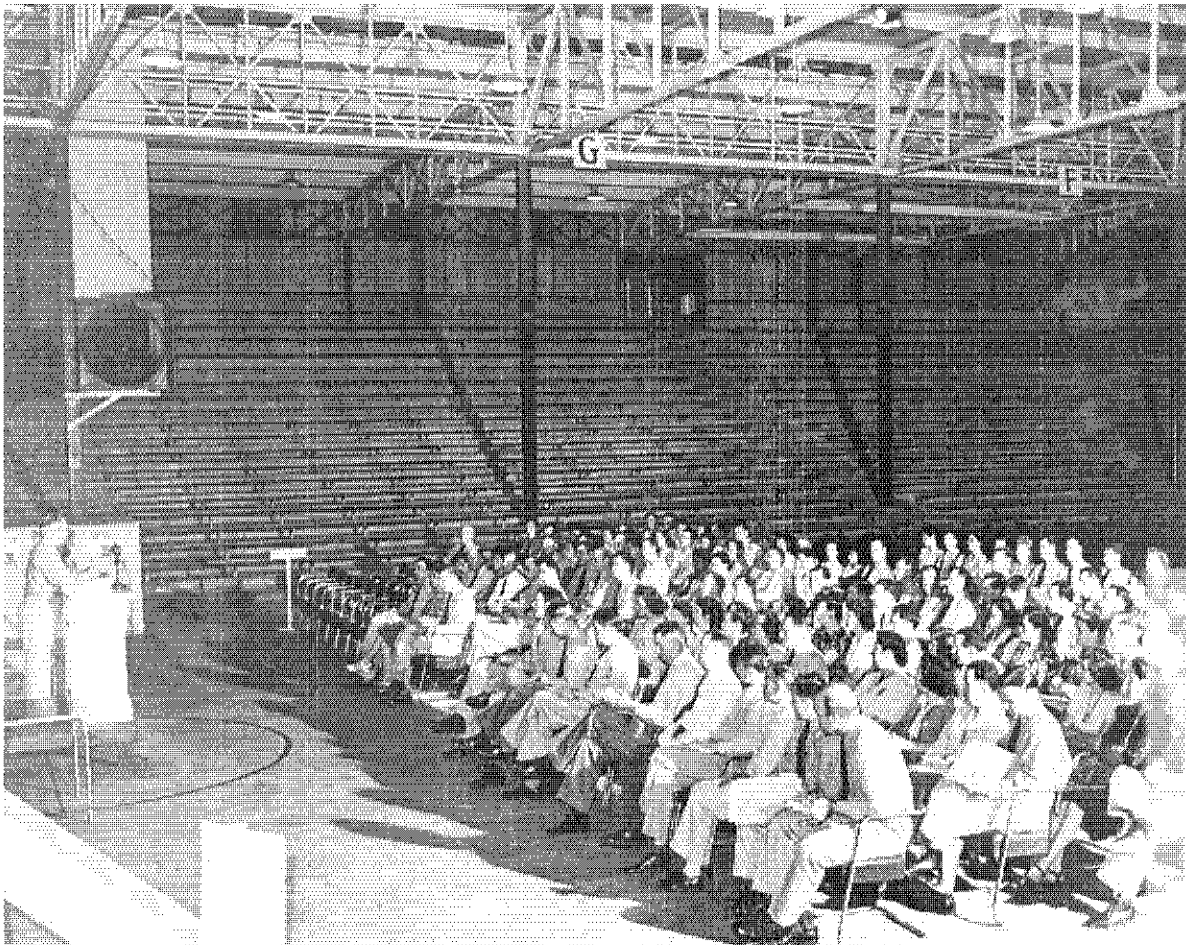
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The open air portion of Bloch Arena is seen in this nighttime view of the building. U.S. Navy photo in *Paradise of the Pacific* magazine, December 1941, p. 103.



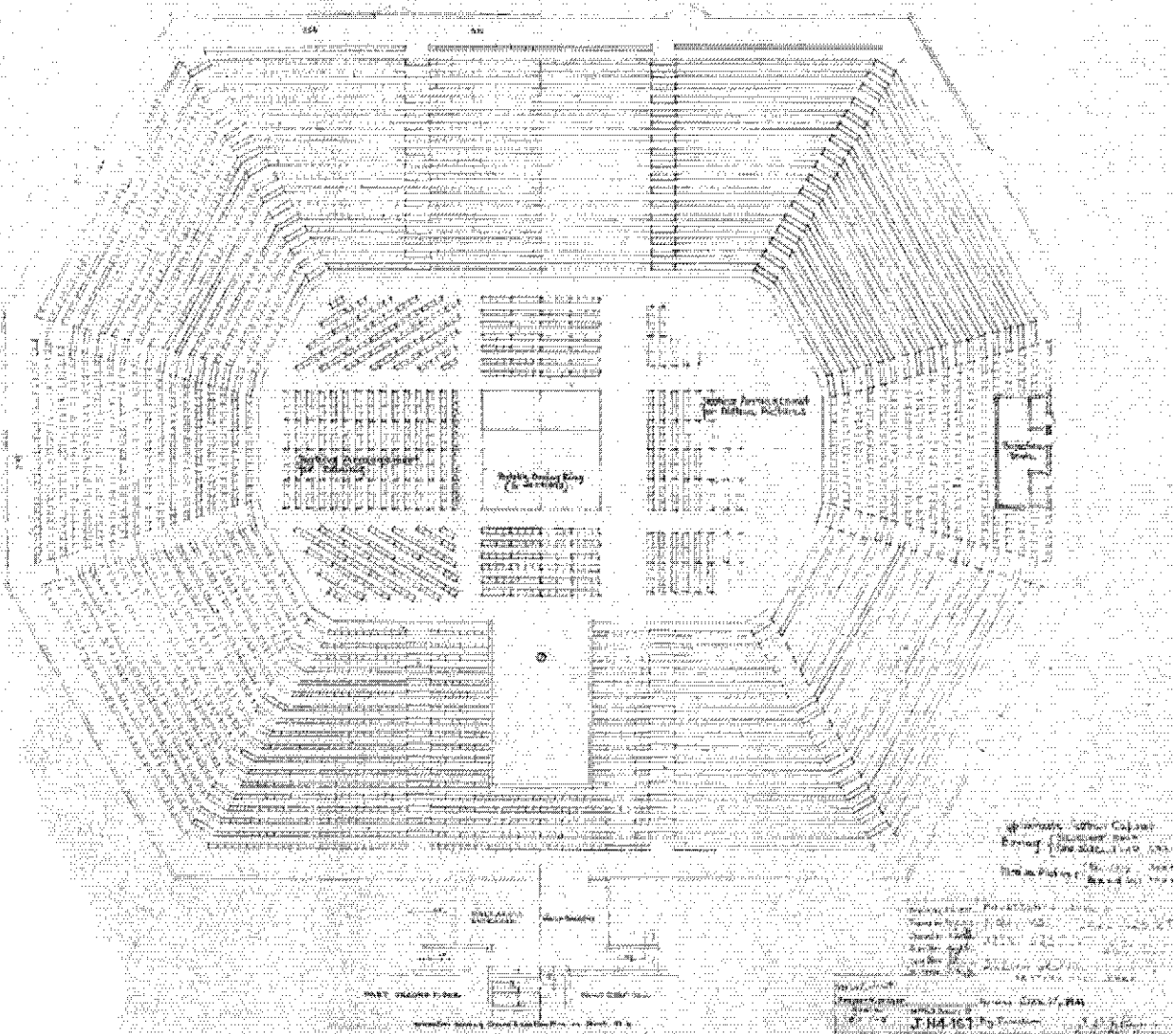
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Photograph dated 1944 showing a Warbond rally at Bloch Arena (Building 161). Admiral William Furlong is at the microphone on the left. From Hawaii State Archives, Admiral Furlong Collection, call # PPFUR 3-16.



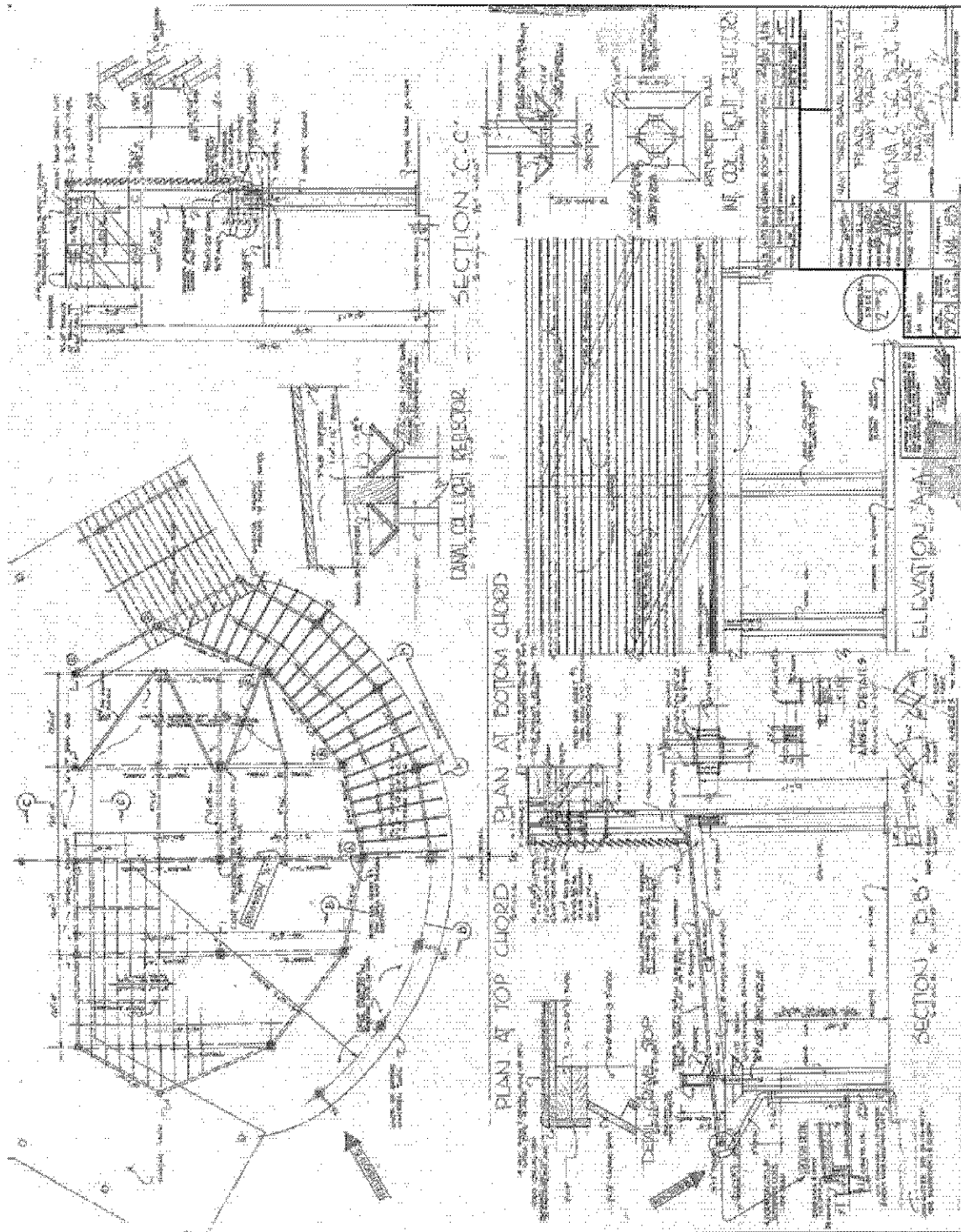
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Portion of drawing dated June 25, 1941 showing the seating plan for the arena. Note the position of the "portable boxing ring (6 sections)" in the center of the main floor and the seating arrangements, on left of the ring is seating for boxing events and on the right of the ring is the seating for motion pictures. The projection booth is at the right edge of the arena. From NAVFAC Plan Files drwg J-N4-167.



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Drawing dated February 22, 1944 showing the addition of a roof over the dance floor at Facility 161. From NAVFAC Plan Files drwg J-N4-183.

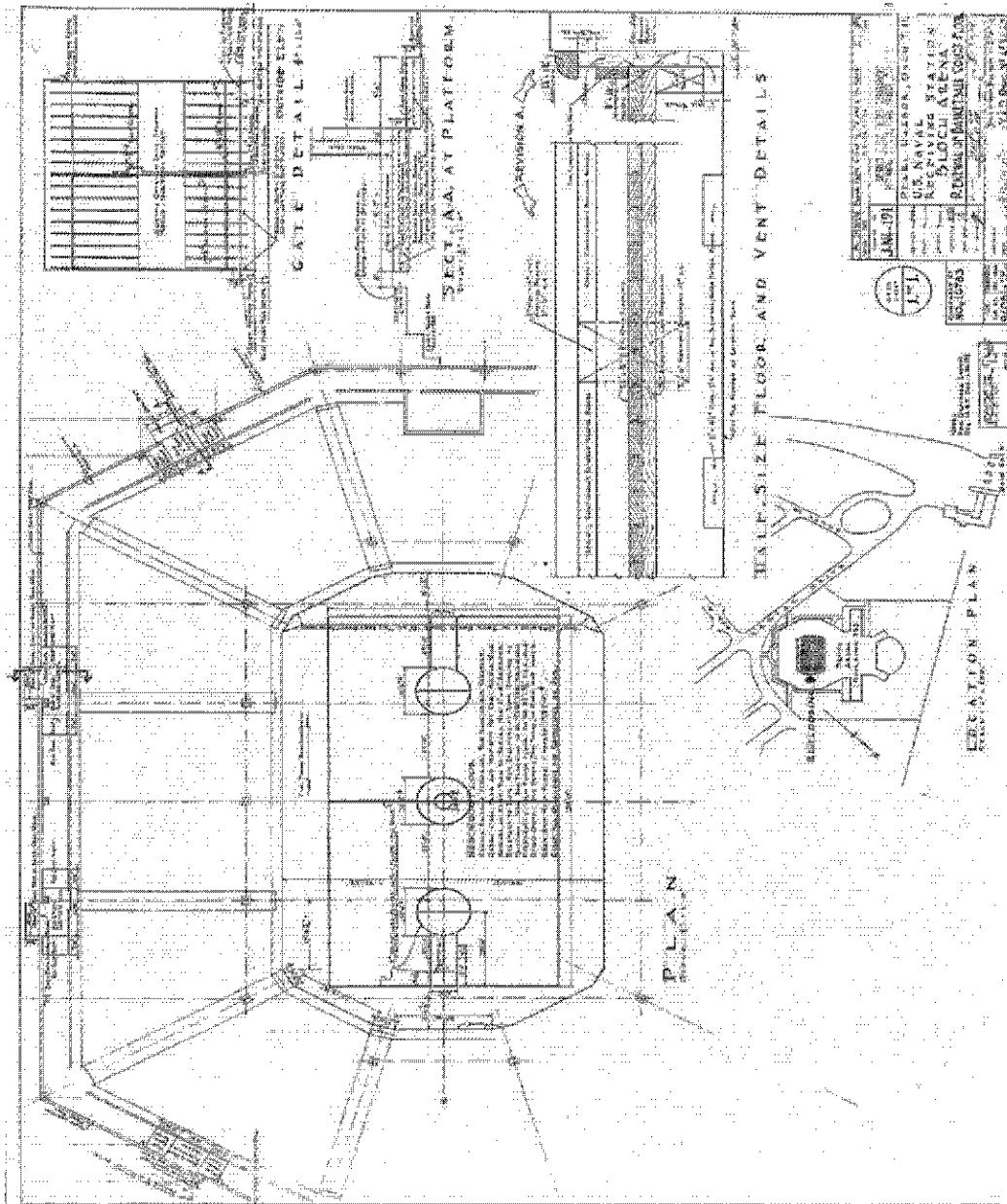


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Drawing dated July 30, 1948 showing the installation of ohia wood strip flooring at the area of Facility 161. From NAVFAC Plan Files drwg J-N4-191. Text at center reads:

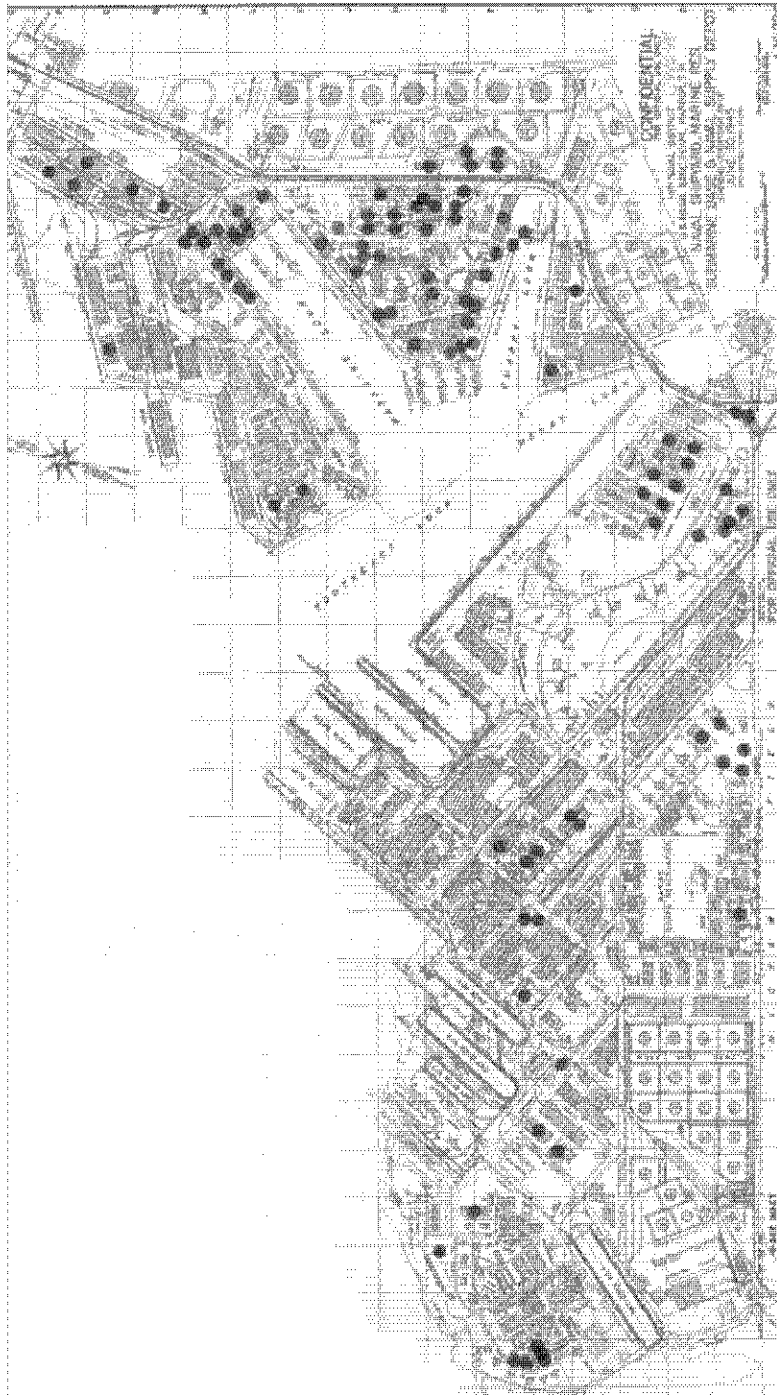
New Wood Floor

Remove existing flooring, sub flooring, and sleepers. Clean conc. slab and mop with hot tar. Reuse wire anchors in exist. slab to secure new 2" x 4" redwood sleepers to slab. New sleepers at same spacing as existing. New sub flooring to be 1" x 8" T&G redwood diagonally. New finish floor to be 2 1/4" x 25/32" T&G kiln-dried ohia.



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Map showing Pearl Harbor buildings as of June 30, 1945. The buildings with added dot highlights were of wooden construction, built during WW II. Compare this map with the map on the next page that shows the base as of June 30, 1941 to see the extent of construction during the war.



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Map showing Pearl Harbor as of June 30, 1941. Compare with 1945 map on the previous page to see the extent of wooden construction during the war.

